

Abstract

A system for and method of performing laser assisted surgery is disclosed. Laser radiation is preferably delivered to a target area of tissue using a Er:YAG laser source. The laser radiation is delivered to the target area in bursts of laser radiation comprising sets of laser pulses.

5 The bursts of laser radiation are preferably delivered to the target area at a repetition rate in a range of 10 to 40 Hz and with sufficient pulse fluences to cut and/or dissect. In accordance with a preferred embodiment, interchangeable and flexible endo-probes are configured with shield features. The shield features control the emission of laser radiation from the optical fiber while bending the flexible probes allow surgeons to access a range of approach angles for the laser
10 treatment of biological tissue enclosed or within a cavity of a body. The probes can also be configured with mechanical cutters or other structures which allow for the mechanical manipulation of tissue during laser treatment. The system for and method of performing laser assisted surgery is particularly well suited for treating fibrous and/or fibro-vascular membranes (FVMs) on ophthalmic tissue during vitreoretinal surgery.